

# **COLLIDER ACCELERATOR SHUTDOWN SCHEDULE**

## **SUMMER 2004 SHUTDOWN RESULTS AS OF SEPT. 29, 2004**

R. Zaharatos –May 12, 2004

### **SHUTDOWN PERIODS:**

**RHIC: May 15 to September 20 , 2004**

**AGS & LINAC: May 21 to September 20, 2004**

**AGS RING SECURED FOR TESTING(NO ACCESS 0800-1630) – JULY 12-AUG. 1**

**BOOSTER: June 21 to September 20, 2004**

**(NSRL Run June 7-21)**

### **RHIC End OF Run/Warm-up Plan**

Saturday May 15

- End of beam. 8:00 AM
- 8AM-4 PM-Preparation for Hi-Potting
  - **Vacuum group doing cold leak testing**
- 4 PM: **Low ring pressures testing**– 4 atm average
  - Evaluate at lower pressure
    - Hi-Pot leakage current
    - Mass flows controller flow capacity
    - Ring pressure drop
  - Lower ring pressure to 3.5 atm
    - Repeat measurements

#### **Ring Warm Up : Sunday 5/16- Friday 5/21**

- **Sunday May 16**
  - Start Warm-up of both rings to Room Temperature.
    - Blue First.
  - Use 1005e compressor for flow during warm-up

Warm Testing: 5/21 Until about 5/27

- **5/21 – Both Rings at room temperature.** Cryostats can be penetrated (triplet being opened for roll correction may be an exception)
- **Magnet Electrical Checking**- requires Flow through both rings using 1005e compressor
- **Warm Leak Checking** – requires line pressurizing/evacuating

AFTER MEMORIAL DAY: APPLY LOTO-START CRYO SHUTDOWN WORK

## **PRIMAY JOBS:**

JOB STATUS CODE: **C** complete **IP** in-process **RS** reschedule  
**CAN** cancelled \* additions

## **AGS RING**

1. **C** Install 9 new Horz. Sextupole Magnets in the AGS Ring at the 13 locations. A13, B13, C13 etc.
2. **C** Install Klixons on all 12 Horz. Sextupole Magnets
3. **C** Install cables around the ring for Horz., Vert., and Dynamic Sextupole Klixon monitoring to Bldg. 929.
4. **IP** Install BLW's (#2 awg cable) around MM at the following locations, A4&5 five turns each with A pol.. A18 five turns and A19 six turns with B pol.. B7&8 five turns with B pol.. B20 & C1 six turns with A pol..

## **COLD SNAKE INSTALLATION**

5. **C** A20 outer ring wall penetration for new sleeve
6. **C** A20 MW – Move device to A15 after modifications
7. **C** A20 Flying Wire – Removal of Device from Ring
8. **C** A20 Current Transformer – Move device to A15 after modifications.
9. **C** UXF1 – Replace Current Transformer
10. **IP** B15 BLIP Transformer I/L
  - a) Install new transformers
  - b) Test all new controls.
11. AC Dipole – Modify Amplifiers
12. IPM –
  - a) Upgrade IPM Electronics including moving equipment out of tunnel (C14 Alcove)
  - b) Modify vacuum ports as necessary.
  - c) Investigate HV Distribution
  - d) Investigate Corrector Magnet Wiring
  - e) Test all new controls.
13. C15 Polarimeter – Upgrade controls

## **AGS EXTERNAL**

1. **C** Siemens – Install New Exciter Power Supply, Transformer and all it's control and power cables.
2. Install covers over all outdoor wiring sleeves to Ring.
3. **IP** A18 House – Cold Snake Equipment Installation

## **BOOSTER RING**

1. BTA foil drive sector valve installation
2. **CAN** Pull BTA foil stripper and replace foils
3. **C** TTB Replace Harp 29/141
4. D3 IPM – Upgrade
5. **C** E7 Half Cell – Removal/Repair/Reinstallation

## **C-A COMPLEX CABLING INSTALLATIONS**

1	Sector 2	BPM Sector 2, 44 Cables
<b>C 2</b>	Sector 3	BPM Sector 3, 88 Cables
<b>C 3</b>	Sector 4	BPM Sector 4, 84 Cables
4	Sector 5	BPM Sector 5, 52 Cables
<b>C 5</b>	Sector 6	BPM Sector 6, 56 Cables
6	Sector 11	BPM Sector 11, 80 Cables
<b>C 7</b>	Sector 12	BPM Sector 12, 84 Cables
<b>C 8</b>	Sector 6	Collimators Sector 6, 9 Cables
<b>C 9</b>	Sector 10	Collimators Sector 10, 9 Cables
<b>C 10</b>	Sector 6	Pin Diodes Sector 6, 8 Cables
<b>C 11</b>	Sector 10	Pin Diodes Sector 10, 8 Cables
<b>C 12</b>	Sector 1	ZDC Sector 1, 5 Cables

### 3 **C-A COMPLEX CABLING INSTALLATIONS** (cont.)

<b>C 13</b>	Sector 2	ZDC Sector 2, 5 Cables
14	Sector 5	ZDC Sector 5, 5 Cables
15	Sector 6	ZDC Sector 6, 5 Cables
<b>C 16</b>	Sector 7	ZDC Sector 7, 5 Cables
<b>C 17</b>	Sector 8	ZDC Sector 8, 5 Cables
<b>C 18</b>	Sector 9	ZDC Sector 9, 5 Cables
<b>C 19</b>	Sector 10	ZDC Sector 10, 5 Cables
<b>C 20</b>	Sector 4	Stochastic Cooling Sector 4, 10 Cables
21	12 IR	Jet Polarimeter, (8 Cables)
<b>C 22</b>	Sector 12	CNI Polarimeter (5 Cables)
<b>C 23</b>	Power Supply System 1004B	1004B output compartments to 1004B control rm

#### **AGS**

<b>C 1</b>	B15	BLIP I/L Transformers, 10 Cables
<b>C 2</b>	C15	C15 Polarimeter (25 Cables)
3	A18 House to AGS Ring A18	Snake Power Supplies Corrector power supplies Warm up heaters

#### **ATR**

1	U U/S	UF2 Flag (TBD # of Cables)
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#### **BOOSTER**

1	BTA	Foil Stripper BTA (TBD # of Cables)
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# **RHIC**

## **GROUP: RHIC Tunnel and Support Equipment – Jobs by Sector – G. McIntyre (ext. 7037, BP 7187)**

**Maintenance Period: Summer Shutdown 2004**

### **PROPOSED RHIC WORK FOR SHUTDOWN 2004, BY SECTOR**

Prepared by: G.T.  
McIntyre x7037

<u>Sector(s)</u>	<u>Device / Modification</u>	<u>Cognizant Person</u>	<u>Estimated Work Date</u>
All sectors	MAINTENANCE ON DIN RAIL BLOCKS	Zapasek, Ron	<b>OCT.</b>
	TEMP. SENSORS ON TRIPLETS & DX	Zapasek, Ron	
	GI gate networked	Williams, Neville	
	VOLTAGE MONITORING SYSTEM	Zapasek, Ron	<b>OCT.</b>
	Upgrade lighting & repair (contactors)	Benante, John	
<b>IP</b>	Checkout & repair of BLM System	Lehn, Dan	
<b>CAN</b>	Fuse AC power to fans in control racks	Venegas, Bill	
	Support BPM chassis moves as needed	Venegas, Bill	
<b>RS</b>	Check and clean filters in Controls alcove chassis	Venegas, Bill	
<b>IP</b>	Replacement of warm beampipes with NEG pipes	Hseuh, H.C.	
		Ganetis, George,	
	Cold & Warm testing of Magnet Electric System	Ribaudo, Paul	
	Preventative Maintenance on overhead cranes	Benante, John	
<b>C</b>	Relief valve calibration and recertification	Nicoletti, Anthony	
Sector 1 <b>IP</b>	Moveable BPM - covers & inspection	Lehn, Dan	
Sector 1 <b>CAN</b>	Roman Pots - Inspect & investigate +5V loss	Lehn, Dan	
Sector 1 <b>IP</b>	Warm Bore - cable re-organization	Lehn, Dan	
		Drees, Angelika, Lehn,	
Sector 1 <b>IP</b>	ZDC under C-A control	Dan	
Sector 1	NEG pipes, bake (Y&B warm bore)	Hseuh, H.C.	
Sector 1 <b>IP</b>	IPM modifications	Lehn, Dan	
Sector 2 <b>IP</b>	BPM System - Module relocation - Alcove 3A	Lehn, Dan	
Sector 2 <b>IP</b>	Moveable BPM - covers & inspection	Lehn, Dan	
Sector 2 <b>CAN</b>	Roman Pots - Inspect & investigate +5V loss	Lehn, Dan	
Sector 2 <b>IP</b>	Warm Bore - cable re-organization	Lehn, Dan	
	Schottky Cavity - Repair leak/ Recommission motion		
Sector 2 <b>IP</b>	control /Covers	Lehn, Dan, Hseuh, H.C.	
Sector 2 <b>IP</b>	Tune meter system - Maintenance	Lehn, Dan	
		Drees, Angelika, Lehn,	
Sector 2 <b>IP</b>	ZDC under C-A control	Dan	
	NEG pipes, bake (Y&B warm bore), (Schottky repair, Y&B		
Sector 2 <b>C</b>	?)	Hseuh, H.C.	
Sector 2 <b>IP</b>	IPM modifications	Lehn, Dan	
Sector 2	Card reader in new roll-up door at IP2	Williams, Neville	
Sector 3 <b>IP</b>	BPM System - Module relocation - Alcove 3C	Lehn, Dan	
Sector 3 <b>C</b>	Adding connectors to Quench Detection cable (Snake)	Ribaudo, Paul	2-3 days

<u>Sector(s)</u>	<u>Device / Modification</u>	<u>Cognizant Person</u>	<u>Estimated Work Date</u>
Sector 3 <b>C</b>	Re-certification of RF's PASS system	Williams, Neville	5 days
Sector 4	TSP transformer switch assembly mounting and termination	Smart, Loralie	2-3 weeks
Sector 4 <b>IP</b>	BPM System - Module relocation - Alcove 5A	Lehn, Dan	
Sector 4 <b>IP</b>	RF testing throughout shutdown	Brennan, Mike	
Sector 4 <b>IP</b>	Re-positioning of Stochastic cooling equipment	Lehn, Dan	
Sector 4 <b>C</b>	Rebuild Anode Dividers, all accel. power amps. (BA3.1, BA3.2, YA3.1 & YA3.2)	Laloudakis, Nickolaos	
Sector 4 <b>C</b>	Rewire all controls wiring for acceleration systems	Laloudakis, Nickolaos	
Sector 4 <b>C</b>	Modification to all Acceleration QEI's	Laloudakis, Nickolaos, DeBoer, John	
Sector 4	Water infiltration & cabling at A/C Dipole		
Sector 4 <b>C</b>	Clean up X4 Cavity (brake vacuum and clean them inside)	Laloudakis, Nickolaos, Hseuh, H.C.	
Sector 4 <b>C</b>	Replace PA to transition pieces, all acceleration stations & replace 1 window	Laloudakis, Nickolaos, Hseuh, H.C.	
Sector 4 <b>C</b>	Stochastic cooling kicker bake (NEG?)	Hseuh, H.C., C.J. Liaw	
Sector 4	Replace SC Fundamental Mode Damper (Y&B)	Hseuh, H.C.	
Sector 4	Replace Fundamental Mode Damper bellows	Hseuh, H.C.	
Sector 4 <b>C</b>	Remove short from Common area	Laloudakis, Nickolaos, Hseuh, H.C.	
Sector 4 <b>C</b>	Replace window in YS3.3	Laloudakis, Nickolaos, Hseuh, H.C.	
Sector 4 <b>C</b>	Coat & replace AC windows (B&Y)	Hseuh, H.C.	June
Sector 4 <b>C</b>	Landau breaker relocated outside of tunnel	Feng, P.K.	
Sector 5 <b>C</b>	Removal of both beamlines at sector 5 Triplet for Mag. Electrical testing	Hseuh, H.C.	
Sector 5 <b>C</b>	BPM System - Module relocation - Alcove 5C	Lehn, Dan	
Sector 5 <b>CAN</b>	Flag Profile Monitors - valves & filters	Lehn, Dan	
Sector 5 <b>IP</b>	ZDC under C-A control	Drees, Angelika, Lehn, Dan	
Sector 5 <b>C</b>	Repair helium leak BI5	McIntyre, G., Hseuh, H.C., Seberg, Scott	
Sector 5 <b>C</b>	Adding connectors to Quench Detection cable (Rotator)	Ribaud, Paul	2-3 days
Sector 5 <b>C</b>	Triplet roll removal & vibration investigation	McIntyre, G., Hseuh, H.C., Seberg, Scott	
Sector 5 <b>C</b>	NEG pipes, bake	Hseuh, H.C.	
Sector 6 <b>C</b>	ZDC under C-A control	Drees, Angelika, Lehn, Dan	
Sector 6 <b>IP</b>	BPM System - Module relocation - Alcove 7A	Lehn, Dan	
Sector 6 <b>CAN</b>	Flag Profile Monitors - valves & filters	Lehn, Dan	
Sector 6 <b>C</b>	Adding connectors to Quench Detection cable (Rotator)	Ribaud, Paul	2-3 days
Sector 6 <b>C</b>	NEG pipes, bake (inner warm bore only)	Hseuh, H.C.	
Sector 6 <b>C</b>	Installation of vertical collimators inner (yellow) ring & bake		
Sector 6 <b>IP</b>	Pin diode array & BLM installation	Lehn, Dan	
Sector 7 <b>C</b>	Installation of new SST gas piping, mixing house to 1008 IR	Pearson, Charles	

<u>Sector(s)</u>	<u>Device / Modification</u>	<u>Cognizant Person</u>	<u>Estimated Work Date</u>
Sector 7 <b>IP</b>	Primary Scrapers, brakes, motors, API enable & test	Lehn, Dan	
Sector 7 <b>C</b>	Installation of crane access equipment & maintenance	Pearson, Charles	
Sector 7 <b>C</b>	FCAL & ZDC/SMD maintenance ?	PHENIX	
Sector 7 <b>CAN</b>	Relocating of ALCOVE 7C ( <b>cancelled</b> )		
Sector 7 <b>C</b>	Replace VME crates at 7C alcove	Oerter, Brian	
Sector 7 <b>C</b>	Adding connectors to Quench Detection cable (Rotator)	Ribaudo, Paul	2-3 days
Sector 7 <b>IP</b>	ZDC under C-A control	Drees, A., Lehn, Dan	
Sector 7 <b>IP</b>	NEG pipes, bake (outer warm bore only)	Hseuh, H.C	
Sector 7	Install dehumidifier (?)	Benante, John	
Sector 8	FCAL & ZDC/SMD maintenance ?	PHENIX	
Sector 8 <b>IP</b>	Primary Scrapers, brakes, motors, API enable & test	Lehn, Dan	
Sector 8	Installation of crane access equipment & maintenance	Pearson, Charles	
Sector 8 <b>C</b>	Adding connectors to Quench Detection cable (Rotator)	Ribaudo, Paul	2-3 days
Sector 8 <b>IP</b>	NEG pipes, bake (outer warm bore only)	Hseuh, H.C	
Sector 8 <b>IP</b>	Bake collimators, NEG pipes(?) (inner warm bore)	Hseuh, H.C	
Sector 9 <b>CAN</b>	Removal & re-installation of yellow kicker assembly (NEG pipes?) & bake	Pai, Chen, Hseuh, H.C.	
Sector 9	NEG pipes & bake, inner	Hseuh, H.C.	
Sector 9 <b>C</b>	1009 Install wall lighting near kickers	Benante, John	
Sector 9 <b>C</b>	Repair helium leak YO9-SNQ8 or YO9-SNQ7	McIntyre, Gary / C-A Vacuum Group	
Sector 9 <b>C</b>	Adding connectors to Quench Detection cable (Snake)	Ribaudo, Paul	2-3 days
Sector 9 <b>IP</b>	ZDC under C-A control	Drees, Angelika, Lehn, Dan	
Sector 9	Remove both warm bore beamtubes	Hseuh, H.C	
Sector 10	Re-align the forward calorimeter (PCAL)	Pak, Robert (PHOBOS)	
Sector 10	1011 Install wall lighting near kickers	Benante, John	
Sector 10 <b>IP</b>	ZDC under C-A control	Drees, Angelika, Lehn, Dan	
Sector 10	NEG pipes & bake, inner	Hseuh, H.C.	
Sector 10 <b>IP</b>	Installation of vertical collimators outer ring & bake		
Sector 10 <b>IP</b>	Pin diode array & BLM installation	Lehn, Dan	
Sector 11 <b>IP</b>	BPM System - Module relocation - Alcove 11C	Lehn, Dan	
Sector 12 <b>IP</b>	BPM System - Module relocation - Alcove 1A	Lehn, Dan	
Sector 12 <b>RS</b>	Polarimeters - Y&B modify & test		
IP2 <b>CAN</b>	NEG-SS pipes, NEG-AL sleeves, & bake	Hseuh, H.C	
IP4 <b>C</b>	Paint floor (sector 4 at RF)	Benante, John	
IP4	FIX WATER PENETRATION, INSTALL OUTSIDE GUTTERS, REGRADE	Benante, John	
IP4 <b>C</b>	NEG pipes, remove shunt & bake	Hseuh, H.C	
IP4 <b>C</b>	Replace SC Fundamental Mode Damper, remove shunt	Hseuh, H.C	
IP6 <b>IP</b>	NEG pipes, remove shunt & bake	Hseuh, H.C	

<u>Sector(s)</u>	<u>Device / Modification</u>	<u>Cognizant Person</u>	<u>Estimated Work Date</u>
IP10 <b>C</b>	NEG-Be pipes, NEG-SS pipes, & bake	Hseuh, H.C	
IP10 <b>C</b>	Cable pulls for new electron-clearing solenoids (Cable crew?)	Smart, Loralie	
IP10 <b>C</b>	Solenoid installation & cable termination in 10:00 interaction region.	Smart, Loralie	
IP12	Repair roof leak in jet target area.	Benante, John	
IP12 <b>C</b>	Remove jet target from area, NEG pipes & bake.	Lehn, Dan	
			May 3 - July 23,2004
Service Buildings	VALVE BOX WORK <b>IP</b>	Zapasek, Ron	
<b>C</b>	INSPECT, REPLACE RACK FANS	Zapasek, Ron	
<b>RS</b>	ADD WEATHER STRIPPING TO RACK DOORS	Zapasek, Ron	
	MAINT IN LINK BOXES ( HARDWARE)	Zapasek, Ron	
<b>IP</b>	MAINT. AC CONNECTIONS	Zapasek, Ron	
<b>IP</b>	DYNAPOWER P.S. MAINTENANCE	Zapasek, Ron	
<b>IP</b>	ADD INSULATION ON GAS LEADS, VALVE BOXES	Zapasek, Ron	
<b>C</b>	QPA/QPAIC MAINTENANCE	Zapasek, Ron	
	Cryo Group power supplies modifications at various locations		
Locations TBD		Nicoletti, Anthony	
1002A <b>C</b>	Repair roof leak in control room	Benante, John	
1002A <b>CAN</b>	Reroute piping in Valve Box ?	Nicoletti, Anthony	
1004A <b>C</b>	AC Dipole - replace door switches & modify AC dipole power amplifiers	Lehn, Dan	
1004A <b>C</b>	Rebuild all anode divider in Storage Anode Power Supplies.	Laloudakis, Nickolaos	
1004A <b>C</b>	Rewire and reprogram HLRP PLC's	Laloudakis, Nickolaos	
1004A <b>IP</b>	Calibrate all cables and all signals	Laloudakis, Nickolaos	
1006B <b>C</b>	Repair leak in Yellow Valve Box	Nicoletti, Anthony , Hseuh, H.C.	
1008B <b>CAN</b>	Reroute piping in Valve Box ?	Nicoletti, Anthony	
1006A&B, 1008A&B, 1010A&B, 1101 Alcoves 1005C, 1007A-C, 1009A- C 1010a&B	<b>C</b> INSPECT , REPLACE RACK FANS		
	<b>C</b> INSPECT , REPLACE RACK FANS	Zapasek, Ron	
	<b>CAN</b> RECONNECT FANS?	Zapasek, Ron	
	<b>CAN</b> ADD FUSES TO FAN SERVICE LINES	Zapasek, Ron	
	<b>IP</b> 50 AMP CORRECTORS ( 645 ) [ 620 ]	Zapasek, Ron	
1005/1005R <b>RS</b>	Replace faulty video camera & move to new location	Lehn, Dan	
1005H <b>C</b>	Roof leak repair	Benante, John	

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Accelerator Controls – B. Venegas (ext. 3917, BP 7241), Brian Oerter (ext. 2799)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>IP</b> 1	Tandem Line (talcove, hitl1, hitl2, hitl3)		Install new VME chassis for instrumentation controls.		None
<b>RS</b> 2	AGS/LINAC		Remove RELWAY panels and cables		None
<b>C</b> 3	RHIC		Support BPM move in all remaining alcoves.		None
<b>IP</b> 4	RHIC		New VME chassis for 3 alcoves, needs to be determined which ones.		None
<b>IP</b> 5	RHIC		New ZDC chassis for C-AD Operations		None
<b>C</b> 6	RHIC		Replace power 3E CPU's with MVME 21 12's in alcoves 3A, 5A, 5C, and 11A. Plus add terminal server in same areas.		None
<b>C</b> 7	RHIC		Remove Landauer TLD's from all alcoves		None
<b>IP</b> 8	Booster 930A		Update PSI's to latest rev. 7 modules need to be updated.		None
<b>C</b> 9	AGS		Fiber optic cable termination to get event links to A18 for cold snake VME controls.		None
<b>C</b> 10	AGS		Controls for B18 IPM and Beam current transformer.		None
<b>IP</b> 11	RHIC		Change firmware in all V120 Permit Modules		None
<b>IP</b> 12	RHIC		Permit I/O panel in all location reworked, still needs to be determined fix.		None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Access Controls – D. Meany (ext. 5329, Pager 0361), N. Williams (ext. 5346, Pager 0554)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>RHIC</b>					
	RHIC	2 weeks	Design, Construct and install remote key tree and Iris scanner for RF area (1004A) Low	Electricians	
<b>IP</b> 2	RHIC	4 weeks	Design a mode to test all PASS critical devices High	Electricians	
<b>C</b> 3	RHIC	8 weeks	Add GI gate to card reader network High	Electricians	
<b>IP</b> 4	RHIC	2 weeks	Correct erroneous reset lamp faults at the GI gates High		
<b>IP</b> 5	RHIC	2 weeks	Upgrade RHIC PASS A Div Processors to 5/04 and DH+. Need to pull RIO cable around ring High		
	RHIC	2 weeks	Reconfigure CCTV system to free up SLC racks Medium		
<b>C</b> 7	RHIC		Complete PASS ODH upgrade in 1005R, 1005H, 1005E. By adding barometric com Divpensation to ODH measurement.		
	RHIC		Remove UED1 gate reachback into X & arcs in A div Medium		
<b>C</b> 9	RHIC		Complete 1004 RF Pass interface in P9. Add flat panel Medium		
	RHIC		Install online monitor PC on A B div both RHIC, NSRL Medium		
<b>C</b> 11	RHIC		Service all crash operators High		
	RHIC		Check all GS gates for release buzzer and lamp High		
	RHIC		Make interlock for Landau cavities permanent	Electricians	
	RHIC		Install card reader at BRAHMs shutdown access gate High	Electricians	
<b>C</b> 15	RHIC		Relocate UPS in 1005H compressor building	Electricians	
<b>C</b> 16	RHIC		Replace all ODH Sensors	Electricians	

**GROUP: Access Controls – D. Meany (ext. 5329, Pager 0361), N. Williams (ext. 5346, Pager 0554)**  
(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
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**NSRL**

1	NSRL		Modify NSRL PASS to D1/D2 as pri critical device	LOW	
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**BOOSTER/AGS/SEB**

C	1	SEB	Remove security hardware at C3 Tgt.	MED	
C	2	SEB	Certify D Line for May Run		
			HIGH		

**ATF**

C	1	ATF	Install and test hardware for chicane interlock		
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**REF EXP**

IP	1	REF Exp	Redesign new security system for new Exp in REF	Electricians	
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**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

**Maintenance Period: Summer Shutdown 2004**

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<b>RHIC</b>					
<b>IP 1</b>	RHIC Ring – All Sectors 1002A, 1004B, 1005E, 1007W, 1008B, 1010B, 1012A	200 hours	BLM Systems – a) Lockout of all sectors as needed b) Termination of spare cables @Q12's c) Full checkout of all sectors prior to startup. d) Removal/Replacement of BLM's as needed for bakeouts. e) Installation & setup of 2 new BLM's for Vertical Collimators (location TBD)	HP - Survey	
<b>IP 2</b>	RHIC Ring Sectors 7 & 8 1008B	24 hours	Primary Beam Scrapers – a) Install Brake Controls b) Install new motors c) Install API enable d) Test system fully	HP - Survey	
<b>IP 3</b>	RHIC Ring All Sectors	800 hours	BPM System – a) Module relocation for following alcoves 3A/3C/5A/5C/7A/11C/1A 1) Removal of old Firewire cable 2) Removal of old Timing cable 3) Removal of all brackets 4) Moving of all modules to alcoves 5) Pulling of all new cables 6) Setup of all modules in alcoves b) Repair/Replacement of all bad modules (List to be generated).	Cable Crew HP – Survey Controls Group	
4	RHIC Ring Sectors 1 & 2	16 hours	Movable BPM – a) Install all covers as needed b) Inspect motion control after cover installation	HP - Survey	
5	RHIC Ring Sector 12 1012A	8 hours	CNI Polarimeter – a) Inspect motion control for Blue and Yellow Polarimeter b) Perform mods as needed – list to be generated.	HP – Survey	
6	RHIC Ring Sectors 5 & 6	16 hours	Flag Profile Monitors – XF1, XF2, YF1 & YF2 a) Install in-line valves for compressed air isolation b) Upgrade neutral density filter assemblies	HP-Survey	

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
7 <b>CAN</b>	RHIC Ring Sectors 1 & 2	8 hours	Roman Pots – a) Inspect motion control devices b) Investigate +5V Logic Loss	HP-Survey	
8 <b>CAN</b>	RHIC Ring Sectors 9 & 10	400 hours	Abort Kickers – a) Removal of yellow magnet assembly – transport to 919-B.  b) Modification of all vacuum chambers c) Reinstallation of assemblies	HP – Survey Riggers Survey Group  Vacuum Group	
<b>IP</b> 9	RHIC Ring 12 IR 1012A	40 hours	Jet Polarimeter – a) Remove Jet Polarimeter from ring b) Perform all work needed in tunnel (list to be generated).	HP – Survey	
10	RHIC 1005 /1005R 1005S	8 hours	Cryo Video – a) Replace faulty video camera b) Move 1 camera to new location	Cryo Group	
11	RHIC 1004B	TBD	AC Dipole – Replace intermittent door switches		
12	RHIC Sectors 1 & 2	16 hours	Warm Bore Area – Clean up and tag all loose cables		
<b>IP</b> 13	RHIC Ring Sectors 1 & 2 1002A	80 hours	Schottky Cavity – a) Repair vacuum leak b) Recommission Motion Control c) Install all safety covers	Vacuum Group Survey Group	
14	RHIC Ring 1002A	8 hours	Tune Meter System – a) Perform maintenance on system b) Cleanup +5V Distribution		
15	RHIC Ring	8 hours	Motion Control Systems – Perform Maintenance on all motion control devices – Scrapers/Collimators/Polarimeters/MBPM		
<b>IP</b> 16	RHIC Ring Sector 6 & 10 1007W/1010A Tentative	200 hours	Vertical Collimators – a) Install, wire and test 2 new collimators (location and work list TBD)	Riggers Vacuum Group Survey Group Cable Crew Controls Group	
<b>IP</b> 17	RHIC Ring Sector 6 & 10 1007W/1010A Tentative	8 hours	Pin Diodes – a) Install, wire and test new Pin Diode Arrays (location and work list TBD)	Cable Crew Electricians Controls Group	

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>IP 18</b>	RHIC Ring	TBD	Stochastic Cooling – a) Installation of new Cooling Tanks (location and work list TBD).	Survey Group Controls Group Vacuum Group Cable Crew	
<b>IP 19</b>	RHIC Ring	TBD	ZDC – a) Support C-A portion of System (location and work list TBD)	Controls Group	
<b>IP 20</b>	RHIC Ring	16 hours	Bakeouts – Support all bakeouts with necessary LOTO, device removal, cable removal etc.	Vacuum Group	
<b>21 CAN</b>	RHIC Ring Sector 12	TBD	Luminosity Monitor – If ready after LBNL Testing		
<b>22 CAN</b>	RHIC Ring	TBD	Hodoscopes – Possibility of removal from 12IR		
<b>IP 23</b>	RHIC Ring	8 hours	Triplett Opening – Support mechanical work with removal of BLM's as necessary		
<b>24</b>	RHIC Ring Sector 7 & 8	8 hours	Pin Diodes – Secure stands to floor		
<b>IP 25</b>	RHIC Ring	TBD	IPM – Possible Upgrades		

**ATR**

<b>1</b>	ATR	24 hours	Flag Profile Monitors – UF2, UF3, UF4, UF5, WF1, WF2, and WF3 a) Install inline valves on air lines b) Upgrade all neutral density filter assemblies c) Replace flags as necessary after inspection	HP-Survey Vacuum Group	
<b>2</b>	ATR	8 hours	BLM System – Perform checkout prior to beam	HP-Survey	
<b>IP 3</b>	ATR	8 hours	BLM System – a) Complete installation of Integrator protection daughter boards and test. b) Cleanup Portable BLM's for U/V		
<b>C 4</b>	ATR	24 hours	BPM System – a) Repair all modules as necessary (Detailed list to be generated).		
<b>C 5</b>	ATR	TBD	UF2 – Modifications/Upgrade ?	HP Survey	

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>TTB</b>					
<b>C</b> 1	TTB	40 hours	Instrumentation – Inspect & Test all BIPS (Beam Instrument Packages) prior to startup	Tandem Personnel	
2	TTB	40 hours	Multiwires – a) Complete installation of Integrator protection daughter boards and test b) Verify Wires with test box & repair electronics as necessary.	Tandem Personnel	
<b>CAN</b>					
<b>C</b> 3	TTB	4 hours	TTB XF29 – a) Disconnect Prior to 29/141 Harp Bakeout b) Reconnect and test when bakeout complete		
<b>BOOSTER</b>					
1	930UEB	40 hours	Instrumentation Racks – Clean up racks and cable trays	Electricians	
<b>CAN</b>					
2	Booster Ring 930UEB	40 hours	RLRM System – a) Investigate Gas Alarm contacts b) Investigate/Repair Argon leaks D-F c) Upgrade Loss Monitor boots/fittings d) Replace all remaining poly-flo lines e) Tie in C5 Short Loss Monitor	HP-Survey Water Group Waste Group	
3	Booster 914/930UEB A10 House	16 hours	Multiwires – a) Complete installation of Integrator Protection Daughter boards and test. b) Verify Wires with test box and repair electronics as necessary. c) Modify for remote Gain Control		
a) <b>C</b> b) <b>C</b> c) <b>RS</b>					
4	Booster Ring 930A	80 hours	D3 IPM – a) Re-Install all cabling b) Construct cover for HV Feedthroughs c) Repair AC Power problems d) Complete electronics upgrade	HP-Survey Electricians	
<b>CAN</b>					
5	Booster 914	24 hours	Video – a) Install remote controls for F6 & BTA Flags	Controls	
<b>CAN</b>					
<b>C</b> 6	Booster Ring	400 hrs	E7 Half Cell – a) Support Removal/Repair/Reinstallation	Riggers, Vac. Water Group, Power Supply	

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
7 <b>CAN</b>	Booster Ring	80 hours	RING – a) Check and remove all unapproved grounds including B6 Beam Dump b) Check all DCCT's	HP - Survey	
8 <b>CAN</b>	Booster Ring	300 hrs	Foil Stripper – a) Pull BTA foil stripper & replace foils b) Test device & support Bakeout c) Motion Control Upgrade	Vacuum Group HP - Survey	
C 9	Booster Ring	40 hours	TTB 29/141 a) Support installation and test of replacement harp b) Repair/Replace Rad-damaged wires	Vacuum Group HP - Survey	
C 10	Booster Ring	80 hours	BPM – a) Investigate A3 (Open) and C3 (Shorted) Filter assemblies above racks. b) Install Air Filter Assemblies c) Repair exhaust fan on C Sector Rack d) Remove Items from Ring e) Phase Match B4 & C5 Cables	HP – Survey Joel Scott	

**AGS**

1	AGS Ring	80 Hours	Ring Grounds – a) Inspect and replace RC's, Shorts, DCCT's and Hybrids as necessary	HP – Survey	
2	AGS Ring	4 Hours	Video – Replace BNC feedthroughs @ 8/18 locations as necessary	HP – Survey Waste Group	
3	AGS Ring	8 Hours	H10 Septum – Install new video light assembly	HP-Survey Waste Group	
4	AGS Ring	4 Hours	UF1 – a) Install inline valve on air line b) Upgrade/Install neutral density filter assembly c) Remove failed fiber optic cable	HP – Survey Waste Group	
5	AGS Ring	4 Hours	Cleanup/Removal of legacy waste – a) North Conjunction b) C14 Alcove	HP-Survey Waste Group	
6	AGS Ring B18 House E10 House	400 Hours	IPM a) Upgrade IPM Electronics including moving equipment out of tunnel (C14 Alcove) b) Modify vacuum ports as necessary c) Investigate HV Distribution d) Investigate Corrector Magnet wiring e) Test all new controls	HP – Survey Vacuum Group Electricians Controls Group	

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
7	AGS Ring J18 House	8 Hours	J10 Beam Dump – resolve TC issues	HP – Survey	
8	AGS Ring HITL 2	80 Hours	C15 Polarimeter a) Rewire motor controls b) Test motion control as necessary c) Additional cables to be run (list to be determined)	HP – Survey Cable Crew Electricians	
<b>IP</b> 9	AGS Ring	200 hours	A20 Current Transformer – a) Move device to A15 after modifications b) Move all cables c) Rodent remnant removal d) Test System	HP-Survey Vacuum Group Plant Eng.	
<b>IP</b> 10	AGS Ring	200 hours	A20 MW - a) Move device to A15 after modifications b) Move all cables c) Test System d) Repair intermittent control power problem	HP-Survey Vacuum Group	
11	AGS Ring	24 hours	RLRM – Investigate Argon leaks (A & B fan Houses)	HP-Survey Water Group	
<b>IP</b> 12	911A	16 hours	Video – Replace all bad monitors in MCR		
13	911B	24 hours	Video – a) Continue upgrade of CATV System b) Troubleshoot/Repair Horizon Video Switch	Electricians	
<b>C</b> 14	AGS Ring A10 House	40 hours	A20 Flying Wire – a) Removal of Device from Ring b) Disable all electronics c) Remove old cables	HP – Survey Vacuum Group	
15	AGS Ring	4 hours	A5 Loss Monitor – Tie into gas system	HP-Survey	
16	AGS Ring	24 hours	UXF1 – Replace Current Transformer	HP-Survey Vacuum Group	
17	AGS F18	400 hours	B15 Blip Transformer I/L a) Install new transformers b) Test all new controls	HP – Survey Vacuum Group Controls Group Access Control Electricians	
18	AGS Ring	8 hours	L20 – Replace damaged Flag		

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio (ext. 4659, Pager 4270)**

(cont.)

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<b>C</b> 19	AGS Ring 919B	400 hours	Sextupole Magnets - a) Build up spare magnets b) Swap out all "13" locations in ring.	HP-Survey Vacuum Group Water Group Riggers P.S. Group	
20	AGS	80 hours	LINAC Video – Install/Test & Setup new reverse trunk		
21	AGS	8 hours	BTA Multiwires - a) Check all channels for bad wires b) Complete Integrator Protection daughter boards and test c) Install Remote Gain Control		
a) <b>C</b> b) <b>C</b> c) <b>RS</b>					
<b>C</b> 22	AGS Ring A10/E10/H10	TBD	BPM – a) Test/Repair/Calibrate as necessary all BPM Modules in question		
23	AGS	TBD	AC Dipole – Modify Amplifiers		
<b>IP</b> 24	AGS Ring	80 hours	H20 Septum – Pull of girder/Inspect/Re-Install	Vacuum Group HP Survey	

## **NSRL**

<b>C</b> 1	NSRL	24 hours	R-Line – Checkout of Beamline Prior to Run
<b>C</b> 2	NSRL	32 hours	Target Room – Complete Miscellaneous Tasks
<b>C</b> 3	NSRL	8 hours	Gas System – Modify Gas system as needed for N2

## **CABLE PULL LIST**

### **RHIC**

1	Sector 2	BPM Sector 2, 44 Cables
<b>C</b> 2	Sector 3	BPM Sector 3, 88 Cables
<b>C</b> 3	Sector 4	BPM Sector 4, 84 Cables
4	Sector 5	BPM Sector 5, 52 Cables

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio  
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(cont.)

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<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
C 5	Sector 6		BPM Sector 6, 56 Cables		
6	Sector 11		BPM Sector 11, 80 Cables		
C 7	Sector 12		BPM Sector 12, 84 Cables		
C 8	Sector 6		Collimators Sector 6, 9 Cables		
C 9	Sector 10		Collimators Sector 10, 9 Cables		
C 10	Sector 6		Pin Diodes Sector 6, 8 Cables		
C 11	Sector 10		Pin Diodes Sector 10, 8 Cables		
C 12	Sector 1		ZDC Sector 1, 5 Cables		
C 13	Sector 2		ZDC Sector 2, 5 Cables		
14	Sector 5		ZDC Sector 5, 5 Cables		
15	Sector 6		ZDC Sector 6, 5 Cables		
C 16	Sector 7		ZDC Sector 7, 5 Cables		
C 17	Sector 8		ZDC Sector 8, 5 Cables		
C 18	Sector 9		ZDC Sector 9, 5 Cables		
C 19	Sector 10		ZDC Sector 10, 5 Cables		
C 20	Sector 4		Stochastic Cooling Sector 4, 10 Cables		
21	12 IR		Jet Polarimeter, (TBD # of Cables)		
C 22	Sector 12		CNI Polarimeter (5 Cables)		
C 23	Power Supply System 1004B		1004B output compartments to 1004B control room		
<b>AGS</b>					
C 1	B15		BLIP I/L Transformers, 10 Cables		
C 2	C15		C15 Polarimeter (25 Cables)		
3	A18 House to AGS Ring A18		Snake Power Supplies Corrector power supplies Warm up heaters		

**GROUP: Beam Components & Instrumentation – D. Lehn (ext. 4542, Pager 4276), Tony Curcio  
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(cont.)

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**ATR**

1	U U/S		UF2 Flag (TBD # of Cables)		
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**BOOSTER**

1	BTA		Foil Stripper BTA (TBD # of Cables)		
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**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Collider Electrical Power Supplies – R. Zapasek (ext. 2189, Pager 4263),**  
**D. Bruno (ext. 5533, Pager 4135)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>RHIC</b>					
<b>RS</b> 1	Valve Box Work	3 Months	Valve box rework 1002, 4, 6, 8, 10, 12		
<b>IP</b> 2	Valve Box Work	2 Weeks	General Maint. Clean, check fans etc.		
<b>IP</b> 3	Valve Box Work	1 Week	Modify Braids on Main P.S.		
<b>C</b> 4	Dynapowers (140)	3 Weeks	New Aux. Contacts		
<b>C</b> 5	Dynapowers (140)	1 Week	Install Mov's in rack supplies		
<b>C</b> 6	Dynapowers (140)	11 Days	Inspect Contactors on stand alones		
<b>C</b> 7	6000 Amp Switch	3 Days	Maint. Clean, Lube Switch		
<b>RS</b> 8	6000 Amp Switch	2 Days	Replace DIN Fuse Holder		
<b>RS</b> 9	6000 Amp Switch	2 Days	Add Lockable Switches HVPS		
<b>RS</b> 10	QPA/QPAIC	1 Day ?	Maintenance IDC Connectors		
11	QPA/QPAIC	10 Days	Replacement Fan Switch		
<b>C</b> 12	Alcoves	5 Days	Inspect, Replace Rack Fans		
<b>CAN</b> 13	Alcoves	5 Days	Reconnect Room Fans ?		
<b>RS</b> 14	Alcoves	10 Days	Add Fuse to Fan Service Line		
<b>CAN</b> 15	Alcoves	1 Day ?	Node Card		
<b>IP</b> 16	50 Amp Correctors (645) (620)	88 Days	Error Fault ????		
<b>OCT</b> 17	RHIC Ring Misc.	5 Days	Maint. on DIN Rail Blocks	<b>OCT.</b>	
<b>IP</b> 18	RHIC Ring Misc.	10 Days	Temp. Sensors Tripplets, DX		
<b>IP</b> 19	RHIC Ring Misc.	1 Day	Add Insulation on Gas Leads		
<b>IP</b> 20	RHIC Ring Misc.	30 Days	Voltage Monitor System		

**GROUP: Collider Electrical Power Supplies – R. Zapasek (ext. 2189, Pager 4263),  
D. Bruno (ext. 5533, Pager 4135)**

(cont.)

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C 21	Service Bldgs.	2 Days	Inspect, Replace Rack Fans		
CAN 22	Service Bldgs.	5 Days	Add Weather Stripping to Rack Doors		
OCT 23	Service Bldgs.	5 Days	Maint. In Link Boxes (Hardware)		
24	Service Bldgs.	5 Days	Maint. AC Connections		
RS 25	Sextupoles (24)	6 Weeks	Crowbar Circuit		
IP 26	Main Magnet Power Supply	5 Days	OCC Beleville Washers Maint		
IP 27	Main Magnet Power Supply	20 Days	Rework & Torque Power Connections		
C 28	Main Magnet Power Supply	1 Day	Maint. Disconnect SW., Substation		
IP 29	Main Magnet Power Supply	1 Day	Main Contactor Inspect and Lube		
IP 30	Main Magnet Power Supply	10 Days	Quench SCR Gate Current Monitor		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Cryogenics – A. Warkentien (ext. 3140 , Pager 4420 ), A. Nicoletti (ext. 3961, Pager 7107)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>RHIC</b>					
<b>C</b>	1 Main Compressor Charcoal Absorber Modifications		Modify the vacuum headers in the demisters area to eliminate oil contamination and carry over to the charcoal beds. Modify accordingly the positions of the pressure transducers.		
<b>C</b>	2 Compressor Rm Piping Modification		Finish the high-pressure bypass in the compressors room to protect the demisters from high velocities.		
<b>C</b>	3 Suction Header Oil Piping		Install a permanent oil drain from the suction header back to the oil sump.		
<b>C</b>	4 I/O Upgrade		AIP for upgrade 1005R and 1005H I/O.		
<b>C</b>	5 Refrigerator Cold Box Modifications		Replace temperature sensors in coldbox 3.		
<b>C</b>	6 Compressor Rm Piping Modification		Replace/repair the flowmeters associated with the outside coalescensors and the purifier.		
<b>C</b>	7 Turbine Repair and Maint.		Rebuild "A" turbines with hardened shafts		
<b>A string only C</b>	Turbine Repair and Maint.		Install new filter assemblies on the rest of the turbines.		
<b>8</b>					
<b>CAN</b>	9 Check plumbing in 2 and 8 o'clock valve boxes		Modify internal valve box piping to allow individual sextant warmup or cooldown. Must work around 80K cooler operation.		
<b>CAN</b>	10 Turbine Interstage Contamination Removal		Develop way to eliminate or locally clean contamination that builds up between turbines		
<b>C</b>	11 Modify oil drain from intercoolers		Add line to bypass check valves on oil drain		
<b>C</b>	12 Pneumatic System upgrade		Modify pneumatic system to prevent air from contaminating purifier done prior to the shutdown.		
<b>CAN</b>	13 O2/N2 Analyzers		Integrate 1006B "SSC" gas analyzer into cryo sys. Some work may be done prior to the shutdown.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**  
(cont.)

**GROUP: Cryogenics – A. Warkentien (ext. 3140 , Pager 4420 ), A. Nicoletti (ext. 3961, Pager 7107)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C</b> 14	Compressor Rm Piping Modification		Modify the piping to allow continuous scrubbing of the helium in the storage tanks. Also modify the piping to allow for the scrubbing of the refrigerator cold boxes without going thru the charcoal beds and the demisters. Can work be done before or after the shutdown?		
<b>Post- poned</b> 15	Power Loss Issues		Add Thermax Capacity for tank farm return lines.		
<b>Post- Poned</b> 16	Compressor Rm Piping Modification		Modify FS 2 compressor skid for individual operation of each compressor.		
<b>Post- Poned</b> 17	Compressor Rm Floor Vibration		Drill floor for injection of vibration damping material.		
<b>IP</b> 18	Refrigerator Cold Box Modifications		Process Review and Process Sheet for Modifying the cooldown procedure to allow introduction of liquid from storage to the supply line in the ring directly.		
<b>C</b> 19	O2/N2 Analyzers		Re-plumb the analyzers to incorporate the Jlab's Equipment in the compressor room. Also if the re-liquefier is going to be used, an analyzer station should be built into 1005E compressor room.		
<b>C</b> 20	O2/N2 Analyzers		Plumb in analyzer stations in the valve boxes so that readings can be done more efficiently.		
<b>IP</b> 21	Vacuum Process Skid		Complete installation of Vacuum Pump Skid on the lower level of 1005R. This work will be started and may be completed during this running period.		
<b>C</b> 22	Inspect and Clean Water Cooling Filter Screens		Any improvement gained from new screens at the water tower?		
<b>C</b> 23	Replace/Repair Leaky Process Valves		Identify process valves that leak and adjust if possible or replace		
<b>C</b> 24	Replace Poor Performing valves		Review fault log for valves that stick or respond slowly.		
<b>C</b> 25	Recalibrate valve positioners		Insure actual valve position matches signal output for proportionally controlled valves.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**  
(cont.)

**GROUP: Cryogenics – A. Warkentien (ext. 3140 , Pager 4420 ), A. Nicoletti (ext. 3961, Pager 7107)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C</b> 26	Repair Helium Leaks		Review results of Helium sniffer tests done during the run.		
<b>C</b> 27	Turbine Repair and Maint.		Regular maintenance and inspection of turbine assemblies.		
<b>IP</b> 28	Painting		Painting of outdoor process piping and storage tanks. Inspect area to prioritize painting. Tanks can be painted during operations.		
<b>IP</b> 29	Replace Humphrey Solenoids (on applicable valves)		Identify continuous duty solenoids and replace with ASCO solenoids on the valve boxes. Solenoids on order.		
<b>C</b> 30	Inspect and Repair Compressor Suction valve actuators		Actuator repair kits are on order.		
<b>C</b> 31	Seal Gas Compressor Oil Drain Line		Modify oil drain line and valve to eliminate trapped oil problem.		
<b>IP</b> 32	Liquid Storage Area		Change JT valves to better match process requirements.		
<b>IP</b> 33	Routine Maint.		Vacuum Pumps, Oil cleaning pumps, helium circulators, air compressors, main compressors, oil pumps, intercoolers, aftercoolers.		
<b>C</b> 34	Inspect Oil Pump inlet screens		Check for evidence of particle buildup.		
<b>AGS</b>					
<b>IP</b> 1	AGS Cold Snake Installation		Install the AGS cold snake magnet with cryocoolers and LN2/Lhe precooling system.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Cryogenics Instrumentation – L. Masi (ext. 4479, Pager 8700), A. Reuter (ext. 3190, Pager 7175)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C</b> 1	1005H	146 days ?	CRISP/RTP I/O upgrade		
<b>C</b> 2	1005H	1 day ?	Automate Valve on purifier for air separation issue		
<b>C</b> 3	1005R	146 days ?	CRISP/RTP I/O upgrade		
<b>C</b> 4		150 days ?	Coldbox 3 temperature sensor replacement		
<b>IP</b> 5		3 weeks	Bentley-Nevada Upgrade		
<b>CAN</b> 6	1005R	1 day ?	Check location of temp. sensors in CB1 and CB2		
<b>C</b> 7	1005R	1 day ?	Wire actuators on valves H422 and H822		
<b>C</b> 8	1005R	1 day ?	Programming for valves H422 and H822		
<b>IP</b> 9	Service Bldgs.		Wire and program smaller J-T valve at LSA		
<b>IP</b> 10	Service Bldgs.		Replace MKS flow controllers with Hastings flow controllers		
<b>IP</b> 11	Service Bldgs.		Replace Humphrey solenoids with Asco solenoids		
<b>C</b> 12	Service Bldgs.		Complete vacuum connectors for VJRR and reliquefier		
<b>IP</b> 13	Control System	1 day ?	CRISP32 upgrade		
<b>IP</b> 14	Control System	2 days	UCX TCPI/P Upgrade		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: LINAC – V. LoDestro (ext. 5005, Pager 7264), B. Brisco (ext. 5007, Pager 4225)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>IP</b> 1	LINAC	1968 HRS	Linac planned maintenance	None	None
2	LINAC	80 HRS	Remove mod 3 7835 ps for repair	None	None
<b>IP</b> 3	LINAC	80 HRS	Remove mod 7 7835 ps for repair and replace ind.	None	None
4	LINAC	40 HRS	Test and install new agc amp in rfq LLRF	None	None
5	LINAC	80 HRS	Improve rfq fast phase loop response	None	None
6	LINAC	40 HRS	Calibrate rf amp & phase system & tk to tk	None	None
7	LINAC	80 HRS	Put tank ion pumps on control system	None	None
8	LINAC	40 HRS	Install controls for resetting ion pumps	None	None
9	LINAC	160 HRS	Setup up controls and operate ref equipment	None	None
10	LINAC	120 HRS	Add water cooling to 7835 supplies	None	None
11	LINAC	80 HRS	Add flow switch interlock to 7835 water	None	None
<b>C</b> 12	LINAC	80 HRS	Change plc code to include the cap bank	None	None
<b>IP</b> 13	LINAC	160 RS	Change all cap bank resistors	None	None
<b>C</b> 14	LINAC	240 HRS	Install PLC controls in cap banks	None	None
<b>C</b> 15	LINAC	16 HRS	Remove ICR filament bucket	None	None
<b>C</b> 16	LINAC	80 HRS	Change PLC code to reflect filament change	None	None
17	LINAC	80 HRS	Make new LEPT solenoid	None	None
18	LINAC	40 hrs	Prototype and test new solenoid pulser ps	None	None
19	LINAC	8 hrs	Install flow switches on pol bms	None	None
<b>IP</b> 20	LINAC	120 hrs	Install Savawatt switch in Mod Control	None	None
21	LINAC	4 hrs	Repair argon leak in blip	None	SS030001
22	LINAC	4 hrs	Repair cable on blip horz multiwire	None	SS030001
23	LINAC	120 hrs	Complete construction of SS modulators	None	None
24	LINAC	80 hrs	Install ACME supply for HEBT 2 Quad	None	None
<b>C</b> 25	LINAC	40 hrs	Add extra steering to HEBT for OPPIS	None	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: LINAC – V. LoDestro (ext. 5005, Pager 7264), B. Brisco (ext. 5007, Pager 4225)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
26	LINAC	160 hrs	Create new fast beam interrupt design	None	None
<b>C</b> 27	LINAC	8 hrs	Replace Ok to charge to 50KV Supply	None	None
28	LINAC	20 hrs	Install new multiwire cables for pol harp	None	SS030001
29	LINAC	8hrs	Install electronic for above cables	None	None
<b>C</b> 30	LINAC	8 hrs	Repair HEBT 5 SEM	None	None
<b>C</b> 31	LINAC	8 hrs	Repair BLIP SEM	HP	SS030001
32	LINAC	40 hrs	Replace all red hose on 7835 cavities	None	None
33	LINAC	200 hrs	Build new modulator load single tube	None	None
<b>C</b> 34	LINAC	2 hrs	Remove all master pulse delays	None	None
35	LINAC	16 hrs	Replace all vac valves with copper lines	HP & Vac	SS030001
<b>IP</b> 36	LINAC	20 hrs	Strip cavity 7 Mod 6 7835 to fix output tuning	None	None
37	LINAC	20 hrs	Check grid drive to 25K in mods for stretch	None	
<b>IP</b> 38	LINAC)	16 hrs	Finish repair all source light links	None	None
39	LINAC	8 hrs	Replace ref 1 <sup>st</sup> harp	Vac	SS030001
40	LINAC	20 hrs	Redo wiring for LTB mags for ext klixsons	None	SS030001
41	LINAC	16 hrs	Check movement of all tank tuners	None	SS030001
42	LINAC	8 hrs	Change out NJE in the blip line	None	None
43	LINAC	160 hrs	Update Fast Chopper controls to VME	None	None
44	LINAC	120 hrs	Cal all 7835 filament leads with shunt	None	None
45	LINAC	80 hrs	Make spare ext p.s. With behkle switch	None	None
46	LINAC	80 hrs	Make chopper with behkle switch	None	None
47	LINAC	40 hrs	Replace all measure flows in HEBT	Water	SS030001
48	LINAC	80hrs	Change driver 7651 Anode stat to outside	None	None
49	LINAC	20 hrs	Flush out mod 8618 Filament water lines	None	None
50	LINAC	20 hrs	Repair any 8618 grid ring and re hose	None	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: LINAC – V. LoDestro (ext. 5005, Pager 7264), B. Brisco (ext. 5007, Pager 4225)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
51	LINAC	40 hrs	Check all taper pin blocks in term room	None	None
<b>IP</b> 52	LINAC	40 hrs	Change all driver anode columns	None	None
53	LINAC	8 hrs	Replace NJE supply in BLIP with new type	None	None
54	LINAC	8 hrs	Lower value of caps on phase buckets	None	None
<b>C</b> 55	LINAC	80 hrs	Build & install malf cards for polar line	None	None
<b>C</b> 56	LINAC	8 hrs	Remove old scr control driver hv	None	None
57	LINAC	40 hrs	Help water group with PLC install for pumps	Water	None
<b>IP</b> 58	LINAC	160 hrs	Update Linac timing to rev1 & recable	None	None
59	LINAC	40 hrs	Set up faraday cup & control for tank 1	None	None
60	LINAC	320 hrs	Start modifying HEBT for EBIS install	None	None
61	LINAC	40 hrs	Complete installation of new SS Chopper	None	None
62	LINAC	40 hrs	Check tank 3 for sparking	HP & AVC	SS030001
63	LINAC	40 hrs	Replace 1-4 Ion Pump	HP & VAC	SS030001
64	LINAC	80 hrs	Add Emerg Gen power to source area	Elect	None
<b>IP</b> 65	LINAC	80 hrs	Add breakers to Sol #2 and LQ 13, 14, 15 RSLOTO	Elect	None
<b>IP</b> 66	LINAC	80 hrs	Change solenoid PS location for water	None	None
67	LINAC	80 hrs	Braid all mod grid deck ps	None	None
68	LINAC	40 hrs	Check trip point of all mod grid deck ps	None	None
69	LINAC	20 hrs	Check Quad 1-1 1-2 for operation ext choke	None	None
70	LINAC	40 hrs	Rebuild all LEBT Vat Valves	Vac	None
<b>C</b> 71	LINAC	40 hrs	Modify 7835 cavity flow switch indicators	None	None
72	LINAC	20 hrs	Change Batteries in PLCs	None	None
<b>IP</b> 73	LINAC	40 hrs	Build & install new elect. Crowbar counter	None	None
<b>C</b> 74	LINAC	40 hrs	Remove SNS Vac Box from HEBT	HP & Vac	SS030001

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Main Ring P.S. Systems – M. Bannon (ext. 7704, Pager 4224), I. Marneris (ext. 7027, Pager 4255)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
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**SIEMENS 929**

<b>IP</b>	1	Siemens 929	Siemens M/G Rotor repair and maintenance		
<b>C</b>	2	Siemens 929	Install New Exciter Power Supply, Transformer and all it's control and power cables.		
<b>C</b>	3	Siemens 929	Test new exciter power supply using AGS Ring as load. (time frame is between July 10 thru August 1 or 2) (during the day)	Everyone's	
	4	Siemens 929	Install new lasers.		
<b>C</b>	5	Siemens 929	UPS's – Preventative Maintenance		

**WESTINGHOUSE**

<b>C</b>	1	Westinghouse	MG Set Maintenance		
<b>C</b>	2	Westinghouse	Inspect Oil Filter for Fillings and/or debris		

**RHIC**

<b>RS</b>	1	RHIC	RHIC – Inspect X-Y arc power supply transformers for nitrogen leaks		
<b>IP</b>	2	RHIC	UPS's – Preventative Maintenance		

**AGS**

<b>IP</b>	1	AGS	Test and Commission new Horz. Sext. Power Supply		
<b>C</b>	2	AGS	Install 9 new Horz. Sextupole Magnets in the AGS Ring at the 13 locations. A13, B13, C13, etc.		
<b>C</b>	3	AGS	Install Sextupole Klixon Monitor Rack in Bldg. 929		
<b>C</b>	4	AGS	Install Klixons on all 12 Horz. Sextupole Magnets		
<b>IP</b>	5	AGS	Install cables around the ring for Horz., Verti., & Dynamic Sextupole Klixon monitoring to Bldg. 929.		
<b>C</b>	6	AGS	Install two new timing cables under road between A10 and L18A house for L20 pos/angle P.S.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Main Ring P.S. Systems – M. Bannon (ext. 7704, Pager 4224), I. Marneris (ext. 7027, Pager 4255)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
C 7	AGS		Install BLW's (#6 awg welding cable) around MM at the following locations.		
C 8	AGS		UPS's – Preventative Maintenance		
IP 9	AGS		Horz. Quad commission to run at higher current approx. 700 amps		
IP 10	AGS		Possible Klixon monitoring of AGS Quads ????		

**BOOSTER**

C 1	Booster		Booster MMPS preventative maintenance		
C 2	Booster		Booster E7 Main Magnet ½ cell replacement		
RS 3	Booster		Booster MMPS new PLC program from Advisor to Control View to RS view		
RS 4	Booster		Test all inputs and output of all plc's and test new program.		
C 5	Booster		Booster Horz. Quad input for harmonic correction needs gain modification and possible design change.		
C 6	Booster		UPS's – Preventative Maintenance		
C 7	Booster		Interface and commission NSRL spill servo learn mode		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Maintenance – R. Zaharatos (ext. 7205, Pager 4281), J. Benante (ext. 2745, Pager 1207)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENT S</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
1	911 Tunnel		Install watertight covers for outer wire tunnel to Term. Rm.	Carpenters	
RS 2	913 Ring		Lighting upgrade – N. Conj., Emerg. Lights G-H, H10-J1		
RS3	913 Fan Hses.		Install remote Fan Controls. D has outside manual ctrl.	PE/AC	
4	913 Ring		Identify and tag disconnected cables – Quadraplex at HI & I. RF cables at AB, CD, J. L. and LA. Action #622.1.13	Bannon, Laloudakis	
5	913 Ring		Re-label Circuit Panel Legends – <a href="mailto:BL443B@D8">BL443B@D8</a> , <a href="mailto:XX432@B8">XX432@B8</a> , <a href="mailto:DLXX433B@A8">DLXX433B@A8</a> , <a href="mailto:DL419B@L8">DL419B@L8</a> ; <a href="mailto:DL413D@K8">DL413D@K8</a> , <a href="mailto:DL412B@J8">DL412B@J8</a> , <a href="mailto:XX@I8">XX@I8</a>		
6	913 Ring		Tag open-ended cables: E16; E5, C10:L17. Across from L11; L6: H17: inside at L6, F12, H20. 00-406		
7	913 Fan Hses.		Paint or replace Fan Hse. Entry doors as required.	PE/Painters	
8	913 Ring		Install covers over all outdoor wiring sleeves to Ring		
RS 9	913 Ring		Upgrade utility AC wiring (outlets and lighting)	Electricians	
10	913 Ring		Fire detection system upgrade	Fire Alarm Electricians	
11	E10 House		Repair entry stairs handrail		
<b>RHIC</b>					
1	RHIC Tunnel		Repair leaks in RF area	Pendzick	
C 2	RHIC Tunnel		PM's on Tunnel exhaust Fans	AC Electricians	

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Power Distribution – T. Nehring (ext. 5275, Pager 4246)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>RHIC</b>					
<b>C</b> 1	Substation 1002B	Week of Jun. 7 <sup>th</sup>	Perform Preventative Maintenance, Replace Temperature Gauge (3 days, PT)		
<b>C</b> 2	Substation 1004B, 1004C, 1004D	Week of Jun. 14 <sup>th</sup>	Perform Preventative Maintenance, Inspect 15 kV Lineup (3 days)		
<b>C</b> 3	Substation 1005E	June	Perform Preventative Maintenance (1 day)		
<b>C</b> 4	5 kV Mcc's	Jun/Jul	Perform Preventative Maintenance (3 weeks)		
5	Substation 1006D, 1006E, 1006F, 1006G, 15 kV Breaker	Week of Sept. 13 <sup>th</sup>	Perform Preventative Maintenance, PM 15 kV Breaker, Soft start for STAR to be tied in. (1 day)		
<b>RS</b> 6	Substation OH Line		Inspect OH Line (5 days)		
<b>AGS</b>					
<b>C</b> 1	911N, A	Jul 17 <sup>th</sup>	Perform Preventative Maintenance (1 day)		
<b>RS</b> 2	Substation K1, K2, K3, P1, P2	Week of Jun. 21 <sup>st</sup>	Perform Preventative Maintenance (3 days)		
<b>C</b> 3	Substation M1, M2, M3, SB1, SB2	Week of Jul. 12 <sup>th</sup>	Perform Preventative Maintenance (3 days)		
<b>RS</b> 4	Substation F1, F2, F3, G, G2 old MPS	Week of Aug. 23 <sup>rd</sup>	Perform Preventative Maintenance, Tie in new switchgear for E-Cooling (3 days)		
<b>C</b> 5	Substation M5, M6	Week of Jul. 26 <sup>th</sup>	Perform Preventative Maintenance (1 day)		
<b>IP</b> 6	Substation PM AGS areas	Early August	Inspect and perform preventative maintenance panel, starters, etc. various areas of AGS (fan houses, etc.)		
<b>BAF</b>					
<b>C</b> 1	BAF SW	Week of Jul. 19 <sup>th</sup>	Replace pad mount switch, Inspect and measure for feed thru replacement.		
<b>LINAC</b>					
<b>RS</b> 1	Substation L1, L2, L3	Week of Aug. 23 <sup>rd</sup>	Perform Preventative Maintenance, Replace feed thru for upper cables.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Pulsed Power – R. Zapasek (ext. 2189, Pager 4263), A. Zhang (ext. 5369, Pager 7248)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>AGS</b>					
<b>C</b> 1	AGS	2MWKS	G10 Kicker, replace caps, maint.	ZHANG	
<b>C</b> 2		2MD	A5 Kicker, feed through maint. General	ZHANG	Beam Comp.
<b>IP</b> 3			DC Bump, Install Klinox	MI	
<b>IP</b> 4			DC Dump, rewire for interlocks	MI/ZHANG	
<b>C</b> 5		7MD	H10, General Maint.	LOCKEY	
<b>C</b> 6		6MD	L20, General Maint.	LOCKEY	
7	AGS Cold Snake	45 days	Assembly 3 Rack System and install system		
<b>RHIC</b>					
<b>C</b> 8	Service Bldgs.	1 day	Inspect, Replace Rack Fans		
9		5 days	Add weather stripping to rack doors		
10		5 days	Maint. in link boxes (hardware)		
11		5 days	Maint. AC connections		
12		23 days	Maint. UPS Serv. Bldgs. & Alcoves		
<b>IP</b> 13	Sextupoles	6 wks	Crowbar circuit		
14	Main Magnet Power Supply	5 days	OCC Beleville Washers Maint.		
15		20 days	Rework & Torque Power Con		
<b>C</b> 16		1 day	Maint. Disconnect SW., substation		
<b>IP</b> 17		1 day	Main contactor inspect and lube		
18		10 days	Quench SCR gate current monitor		
19		15 days	OCC scr current monitor (48).		
<b>C</b> 20		1 day	Replace fan blu quad.		
<b>BOOSTER</b>					
<b>C</b> 1	Booster	7MD	F6 General Maint.	LOCKEY	
<b>C</b> 2		2MD	F3 Kicker, General Maint.	ZHANG	

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Pulsed Power – R. Zapasek (ext. 2189, Pager 4263), A. Zhang (ext. 5369, Pager 7248)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
C 3		10MD	Ext. Bump PS's, Add Test Points		
			LOCKEY/TAN		
C 4		1MD	Tune Meter, General Maint.	ZHANG	
<b>RHIC</b>					
C 1	RHIC	1MWK	Inj. Kickers, Replace Pressure Switches	ZHANG	
Maint Only 2			Abort Kicker, Maint.,	MI	
RS 3		7MD	Abort Kicker, Sound Recorder Upgrade	TAN	
RS 4		4MWK	Abort Kicker, blue, new trigger installation	TAN	
5	Valve Box Work	3 months	Valve Box rework 1002, 4, 6, 8, 10, 12		
6		2 WKS	General Maint. Clean, check fans etc.		
7		1 WK	Modify braids on Main PS		
C 8	Dynapower	2.8 WKS	New Aux. Contacts		
IP 9		2.8 WKS	Install MOV's in rack supplies		
C 10		1.33 days	Inspect contactors on stand alones		
IP 11		5 days	Repair Bad HKPS		
IP 12		2 days	Install fan filters		
C 13	6000 Amp Switch	1 day	Maint. Clean, lube switch		
14		2 days	Replace din fuse holder		
15		2 days	Add lockable switches HVPS		
C 16		1 day?	Add lock to E Adj. Pot		
C 17	Alcoves	5 days	Inspect, replace rack fans		
18		5 days	Reconnect Room Fans?		
19		20 days	Node Card		
IP 20		52.8 days	50 amp correctors (645)[620] upgrade and test		
21	RHIC Ring Misc.	5 days	Maint. On din rail blocks		
22		10 days	Temp. Sensors Triplets, DX		
23		1 day	Add Insulation on gas leads		
IP 24		30 days	Voltage Monitor System sect1		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: RF Group – N. Laloudakis (ext. 7177, Pager 4261), A. Zaltsman (ext. 2976, Pager 4259)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
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**RHIC**

<b>C</b>	1	Tunnel	Rebuild Anode Dividers in all acceleration Power Amps. (BA3.1, BA3.2, YA3.1 and YA3.2)	No	No
<b>C</b>	2	Tunnel	Rewire all controls wiring for acceleration systems	Yes, Elect. to mount boxes)	No
<b>C</b>	3	Tunnel	Modification to all Acceleration QEI's	Yes, Pump Rm	No
<b>C</b>	4	Tunnel	Clean up X4 Cavity (break vacuum and clean inside)	Yes, Vac. Grp	No
<b>2</b>	5	Tunnel	Replace PA to cavity transition pieces on all acceleration stations and replace one window	Yes, Vac. Grp	No
<b>Done</b>					
<b>RS</b>					
<b>C</b>	6	Tunnel	Remove short from Common area	Yes, Vac. Grp	No
<b>C</b>	7	Tunnel	Replace window in YS3.3	Yes, Vac. Grp	No
<b>IP</b>	8	Bldg. 1004A & Tunnel	Calibrate all cables and all signals	No	No
<b>IP</b>	9	Bldg. 1004A & Tunnel	General clean up (replace air filters remove unused wires)	No	No
<b>C</b>	10	Bldg. 1004A	Rewire and reprogram HLRF PLC's	No	No
<b>C</b>	11	Bldg. 1004A	Rebuild all anode divider in Storage Anode Power Supplies	No	No

**BOOSTER**

<b>C</b>	1	Bldg. 942 Tunnel	Install 2 each ENI's In A3 and B3 locations (Fast Feedback)	Yes, Pump Rm & Electricians	Yes
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**AGS**

<b>C</b>	1	AGS Ring	Finish rest of gap short relays	No	Yes
<b>C</b>	2	AGS Ring	Recheck and retube all feedback amps (10 each) before start up.	No	Yes
<b>C</b>	3	AGS Ring	Replace or clean all air filters (PM)	No	Yes

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: RF Group – N. Laloudakis (ext. 7177, Pager 4261), A. Zaltsman (ext. 2976, Pager 4259)**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
4	AGS Ring		Replace or clean all water filters (PM)	Yes, Pump Rm	Yes
<b>C</b> 5	AGS Ring		Replace all shorted capacitors in anode power supplies IJ, JK, E and B	Yes, Riggers	No
<b>C</b> 6	Bldg. 929		Modify all kepcos power supplies to 110 VAC and connectorize all screen power supplies	No	No
<b>C</b> 7	Bldg. 929		General clean up (power supplies and all filters)		
<b>C</b> 8	Bldg. 929		Remove feedback screen modulation chassis	No	No

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Vacuum – Supervisor: Steve Gill, Ext 4627, Pager 4164 – Addtl. Contact: Mike Mapes, Ext. 2841, Pager 4277**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>AGS</b>					
1 <b>CAN</b>	AGS / F		Replace F-10 SEPTUM		Rwp Req.
<b>C** 2</b>	AGS / HI		Check / Replace H-20 Ion Pump? H-20 Ion Pump Cable? (with item #3)	DL / JB	Rwp Req.
<b>C 3</b>	AGS / HI		Remove H-20 Septum from girder for inspection (with item #2) (install straight section temporarily & restore vacuum integrity)	JB	Rwp Req.
<b>IP 4</b>	AGS Ring & A10/E18/H10	May-Sept	Vacuum valve PLC Upgrade Includes replacing all valve solenoids in ring (RWP required for ring work only)	LS / DZ / DL / MC/ +	Rwp Req.
<b>C** 5</b>	AGS / AB		Remove Inj. Harp and BCM from A-20 & install at A-15		Rwp Req.
<b>C 6</b>	AGS / AB		Remove Flying Wire and Sector Valves from A-20 & x-port to storage		Rwp Req.
<b>C 7</b>	AGS / AB		Install straight section if Cold Snake is not ready		Rwp Req.
8	AGS / AB		Install new Cold Snake at A-20		Rwp Req.
9	AGS / BC		Install new BLIP interlock x-fmr at B-15		Rwp Req.
10	AGS / C5-E15		IPM's .. Replace motors? Replace servo's?		Rwp Req.
<b>C** 11</b>	AGS / LA		Replace L-20 Flag		Rwp Req.
<b>C** 12</b>	AGS		Replace nine #13 Sextupole magnets & re-use beam pipe (list of sextupoles to follow)	JB / +	Rwp Req.
<b>IP 13</b>	A10/E18/H10		Clear outstanding ion pump power supply problems (DNA's, etc.)	LS / DZ / DL	

**BOOSTER**

<b>CAN 1</b>	Booster / BTA	August	BTA foil drive sector valve installation. Bake		Rwp Req.
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**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Vacuum – Supervisor: Steve Gill, Ext 4627, Pager 4164 – Addtl. Contact: Mike Mapes, Ext. 2841, Pager 4277**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
C** 2	Booster / E	July	Replace E-7 magnet / Bake	VU	Rwp Req.
CAN 3	Booster / B	July	Electrically isolate B-6 Collimator ( <i>possibly may not need to vent</i> )		Rwp Req.
C** 4	Booster	August	Final continuity check and connect remainder of i.g. collector cables	JS	Rwp Req.
C** 5	HITL	5/17 – 6/7	Swap out harp in HITL Sector 29 ... Change bellows?? Bake	VU / JS / +	Rwp Req.

**BLIP**

1	BLIP 1	June	Replace the two "B" ion pumps		Rwp Req.
2	BLIP 1	June	Wrap graphite filled beam pipe with heater tapes and bake (?)		Rwp Req.
3	BLIP 2		<i>Possibly</i> replace window in wall at end of line		Rwp Req.

**REF**

1	REF		Restore vacuum integrity for upcoming run		Rwp Req.
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**ATR**

C	1	ATR line / x-4 & 5	May?	Replace X4-sv ... vent X-4 & X-5	
	2	ATR line / U1		Replace current x-fmr at UFX1	
C**		ATR line / U2		Replace <b>flag drive unit</b> at UFX2	
	3				

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Vacuum – Supervisor: Steve Gill, Ext 4627, Pager 4164 – Addtl. Contact: Mike Mapes, Ext. 2841, Pager 4277**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
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**RHIC**

C** 1	IR – 2	June-July	NEG-SS pipes, NEG-A1 Sleeves, Bake		
IP**2	Yo-1	Aug-Sept	Install NEG pipes, new IPM MCP, Bake		
IP 3	Bo-2	July/Aug	Schottky repair, install NEG pipes, new IPM MCP, Bake		
C 4	Yi-2	Aug-Sept	Schottky repair, install NEG pipes, Bake		
C 5	IR-4	May-June	NEG Pipes, Remove shunt, Bake		
IDK**	Yo4-1	June-July	Coat, replace Acc. Cav. Windows		
6					
C 7	Yo4-2	Week of 5/17?	Replace 3.2 Stor. Cav. Window or 3.3 ???		
8	Yo4-3	Aug-Sept	Install / Bake SCK, Install NEG pipes?		
C**	Bi4-1	June-July	Install TSP load switches		
9					
10	Bi4-2	May-June	Replace SC FMD bellows		
IP**	Bi-5	June-Oct	Insert G5 triplet probes, NEG pipes / Bake (pipes removed)		
11					
C**	Yo-5	June-Oct	Insert G5 triplet probes, / Bake (pipes removed)		
12					
C**	Yi-6	June-Sept	Install NEG pipes / Bake / V Collimator installation ???		
13					

*Tentative!* Add the SWC FM damper upgrade to air cooling (qty 10) ...

**RF Group  
List**

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Vacuum – Supervisor: Steve Gill, Ext 4627, Pager 4164 – Addtl. Contact: Mike Mapes, Ext. 2841, Pager 4277**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
C** 14	IR-6	May/Oct.	NEG-SS pipes, Bake		
15	Bo-7	Sept/Oct.	Install NEG pipes / Bake		
CAN 16	Yo-8	Sept/Oct.	Install NEG pipes / Bake		
C 17	Bi-8	May-Aug	Bake collimators, install NEG pipes ??		
			<b>Clean up X4 Cavity (break vacuum and clean inside)</b>	<b>From RF group List</b>	
C 18	Yo-9-1	May-Aug	Dump kicker repair, install NEP pipes / Bake		
19	Bi-9	May-Aug.	Install NEG pipes / Bake		
C** 20	Bo-10-2	July-Aug	Vertical Collimator (?)		
CAN 21	IR-10	May-Aug	NEG – Be pipes, NEG-SS pipes, Bake		
CAN 22	Yi-11	Sept/Oct.	Modify SCU, Bake, NEG Pipes ????		
C 23	IR-12	June-Aug	Install NEG pipes, remove jet (?), Bake		
<b>Note: when removing kapton solenoid wire for NEG pipes, save the kapton wire for future use.</b>					
24	RING / IR-10	Sept-Oct	Restore solenoids / NEW SOLENOIDS at IP-10		
C 25	Yo-9 (Q7-Q8)	June-Aug	Repair snake He leaks (5e-2 range)		
C 26	Bi-5 (Q14 end)	May-Aug	Repair He leaks (2e-3 range)		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

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**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C**</b> 27	6:00 Y Valve Box	June-Aug	Repair He leaks between valves 6736 & 6740 (2e-3 range)		
28	G5 triplet	June-Aug	Vibration & roll study		
			<b>Replace PA to cavity transition pieces on all acceleration stations and replace one window</b>	<b>From RF Group List</b>	
<b>IP</b> 29	ATR/X-3 & X-4	New addition	Leak check /replace xcc3b, xcc4a & xcc4b gauges		
30	RHIC tmp's		Perform maintenance		
<b>IP</b> 31	RHIC ccg's		Maintenance / replace ?		
<b>IP</b> 32	RHIC ppa's		Maintenance / replace ? (see list on sheet#6)		
33	RHIC valve airline		Install new air dryers?		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt, Ext. 4797, Pager 4273, R. Grandinetti, Ext. 7186, Pager 4139**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
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**NOTE:** Watch Standing will approximately spend 4 hours a day to check on operating equipment and provide services for the group.

**AGS**

<b>C</b>	1	Multipole System	5/04 to 9/03 Summer Mnt 16 Mhrs	Change out bag filter, Maintenance on pumps (2)	None	N/A
<b>C</b>	2	Pump Room Cntrls	“ 16 Mhrs	Maintenance of pneumatic Cntrls (Calibration and cleaning)	None	N/A
<b>IP</b>	3	Main Magnet	“ 68 Mhrs	Install air bleeders on DI cartridges, change out bag filter, maintenance on Evap coolers (8), Mnt on pumps (5), back flush Htxr. Install new PLC load and test.	None	RWP 457
<b>C</b>	4	Main Magnet	“ 24 Mhrs	Install new MM expansion tank and disconnect old, test and run.	P.E. plumbers	RWP 457
<b>C</b>	5	Domestic Water	“ 8 Mhrs	Schedule and perform RPZ test by P.E. 911A pump room and 915 10” RPZ.	P.E. plumbers	N/A
<b>IP</b>	6	Chillers	“ 120 Mhrs	Installation of Plc Cntrls, parts, wiring, Transmitters, and testing. Electrical work on MCC.	P.E. A/C	N/A
<b>RS</b>	7	Main Magnet	“ 160 Mhrs	Possible installation of new circulating pump, Drain/fill portion of system, New load, wiring and test run.	P.E. Plumbers	RWP 457

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 911A Westinghouse**

<b>C</b>	1	Westinghouse Cooling System	5/04 to 9/04 Summer Mnt 48 Mhrs	Maintenance/repair on cooling pumps and CNTRLS. (2)	None	N/A
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**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
**Ext. 4797, Pager 4273, R. Grandinetti, Ext. 7186, Pager 4139**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>Bldg. 951 AGS RFPA</b>					
<b>C</b> 1	AGS RFPA Cooling System	5/04 to 9/04 Summer MNT 16 Mhrs	Mnt, repair and cleaning of E-vap cooler	None	N/A
<b>C</b> 2	“	“ 6 Mhrs	Schedule and perform RPZ test by P.E.	P.E. Plumbers	N/A
<b>C</b> 3	“	“ 24 Mhrs	Maintenance on pumps (4)	None	N/A
<b>C</b> 4	“	“ 4 Mhrs	Replace filters on inline bag filter	None	RWP 457

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 951 Fast Pulse Quad**

<b>RS</b> 1	AGS Fast Pulse Quad Cooling System	5/04 to 9/04 Summer Mnt 40 Mhrs	Disassemble, reassemble and clean FPQ Htxr	None	N/A
<b>C</b> 2	“	“ 4 Mhrs	Change out bag filter.	None	RWP 457
<b>C</b> 3	“	“ 8 Mhrs	Pump maintenance (2)	None	N/A
<b>C</b> 4	“	“ 8 Mhrs	PSI/Temp Controller Maintenance	None	N/A

**Bldg. 913 AGS Ring**

<b>C</b> 1	AGS Ring	5/04 to 9/04 Summer Mnt 200 Mhrs	Installation of 9 new sextupoles, draining and filling of magnets, removal of old hoses and fittings, installation of new manifold, fittings and hoses.	P.E. plumbers	RWP 457 & HP
<b>?</b> 2	“	“ 12 Mhrs	Remove/install h-20 septum.	None	RWP 457 & HP
<b>IP</b> 3	“	“ 80 Mhrs	Replace worn hoses and leaking fittings.	None	RWP 457 & HP
<b>IP</b> 4	“	“ 12 Mhrs.	Replace bag filters in 5 cartridges. Removed and disconnected 3 old bag filters.	None	RWP 457 & HP
<b>RS</b> 5	“	“ 24 Mhrs	Replace air filters on airlines.	None	RWP 457 & HP

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
**Ext. 4797, Pager 4273, R. Grandinetti, Ext. 7186, Pager 4139**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
RS 6	“	“ 32 Mhrs	Clean all strainers on tune quad magnets (13).	None	RWP 457 & HP
IP 7	“	“ 80 Mhrs	Back flush marginal magnets from last heat run.	None	RWP 457 & HP
IP 8	“	“ 18 Mhrs	Perform MNT on all RFPA stations (9), Clean strainers, check CNTRL Valves, Flow meters ETC.	RF Group	RWP 457 & HP

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 911, 912 and 912a**

C 1	EXP TWR1	5/04 to 9/04 Summer Mnt 40 Mhrs	Drain and clean all towers and strainers. Complete piping connections in 911 assembly area. Repair TWO 1 pump, valve and check valve.	P.E. plumbers	N/A
C 2	“	24 Mhrs	Perform maintenance on pumps (9) and controls.	None	
RS 3	TWRS 1	16 Mhrs	Replace Twr gear box oil	None	N/A
C 4	EXP TWRS	? Mhrs	P.E plumbers test all RPZ (back flow prevent”	PE plumbers	N/A
C 5	SEM	24 Mhrs	Maintenance on all CNTRLs.	None	RWP 457 and HP

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 914 and 942 BSTR Ring**

C 1	BSTR Pump Room	5/04 to 9/04 Summer Mnt 12 Mhrs	Change filters on MM, RF and chillers bag filter.	None	RWP 457 & HP
RS 2	BSTR Ring	16 Mhrs	Clean all RF Strainers on RF PA's	RF group	RWP 457 & HP
C 3	BSTR Ring	8 Mhrs	Change out ring air filters.	None	RWP 457 & HP
C 4	BSTR Pump Room	40 Mhrs	Perform MNT on all pumps (7), Repair RF pump.	None	RWP 457 & HP
RS 5	BSTR Ring	4 Mhrs	Remove LTB sureflow switches	None	RWP 457 & HP
C 6	BSTR Area	8 Mhrs	Replace RF ENI's Fittings with new.	RF Group	RWP 456 & HP
C 7	BSTR Ring	16 Mhrs	E-7 Magnet repair, drain/disconnect and reinstall.	Beam Components	RWP 457 & HP
C 8	BSTR Ring	32 Mhrs	F-6 Septum build new, hoses, fittings, piping	Beam Components	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
**Ext. 4797, Pager 4273, R. Grandinetti, Ext. 7186, Pager 4139**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C</b> 9	BSTR Ring	8 Mhrs	Old F-6 Septum, drain disconnect and install new F-6.	Beam Components	RWP 457 & HP

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**AGS Bldg. 928/929 RFMG**

<b>RS</b> 1	RFMG Pump Room	5/04 to 9/04 Summer Mnt 480 Mhrs	Cleaning of the following HTXR's, RF Cavity, RF PWR, Rectifier, Choke, and RFMG Seimens oil cooler.	None	N/A
<b>C</b> 2	RFMG Pump Room	40 Mhrs	Calibration and cleaning of pneumatic controls.	None	N/A
<b>RS</b> 3	RFMG Pump Room	16 Mhrs	Installation of new Liquid Rheostat covers.	PWR Room	N/A
<b>C</b> 4	RFMG Pump Room	32 Mhrs	Rectifier System repair/MNT leaks and TEMP CNTRLS.	None	N/A
<b>C</b> 5	RF ENI's	32 Mhrs	Replace ENI's PWR supply cooling fittings.	RF Group	N/A

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 919A Tower 5**

<b>C</b> 1	TWR No. 5	5/04 to 9/04 8 Mhrs	Drain and clean cooling tower and strainers.	None	N/A
<b>RS</b> 2	TWR No. 5	12 Mhrs	Change out tower gear box oil.	None	N/A
<b>C</b> 3	TWR No. 5	16 Mhrs	Pump MNT (3) and CNTRLS.	None	N/A
<b>RS</b> 4	TWR No. 5	16	Replace TWR fan shaft (rusted).	None	N/A

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
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**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>AGS (BLIP) Beam Stop Bldg. 946</b>					
<b>C</b> 1	Beam Stop	5-04 to 9/04 24 Mhrs	Reconfigure piping for the beam stop deionizer. Install bleeder valves.	None	RWP 457 & HP
<b>C</b> 2	“	“ 48 Mhrs	Drain portion of cooling system, Install instrumentation taps.	P.E. Plumbers	RWP 457 & HP
<b>IP</b> 3	“	“ 240 Mhrs	Installation of new Plc, wiring and Cntrls, Run and test.	Electricians	RWP 457 & HP

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF  
SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**Bldg. 930 Linac**

<b>IP</b> 1	LINAC Tower	5/04 to 9/04? 120 Mhrs	Perform tower maintenance, cleaning and repairs. Check fan gear box support and repair, realign fan blades.	Contractors	N/A
<b>IP</b> 2	LINAC Cavity	“ 320 Mhrs	Upgrade for 2 Linac cavity stations, PLC's, wiring, Run and testing.	P.E. Plumbers Electricians	N/A
<b>RS</b> 3	LINAC PUMP Room	“ 60 Mhrs	Linac RF and transport Htxr cleaning.	None	N/A
<b>C</b> 4	LINAC 930A	“ 60 Mhrs	Linac RF and TWR switch pumps and test PLC's.	Linac GRP	N/A
<b>C</b> 5	LINAC HEBT	“ 24 Mhrs	Linac RF install flow transmitter.	None	N/A
<b>C</b> 6	LINAC CNTRL RM	“ 16 Mhrs	Calibrate, repair and clean pneumatic controls.	None	N/A
<b>IP</b> 7	LINAC	“ 16 Mhrs	Linac Cavity station 3, clean HTXR, flow problem.	None	N/A
<b>IP</b> 8	LINAC Pump Room	“ 16 Mhrs	Perform maintenance on all Pumps	None	N/A
<b>RS</b> 9	930A Annex	“ 80 Mhrs	Replace rectifier PER supply old hoses.	PWR Room	N/A
<b>IP</b> 10	LINAC	“” 24 Mhrs	Linac replace all bag filters including cavity stations.	Linac Group	RWP 457 & HP

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SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
**Ext. 4797, Pager 4273, R. Grandinetti, Ext. 7186, Pager 4139**

**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>F-10 House Bldg. 932</b>					
<b>C</b> 1	F-10 TWR	5/04 to 9/04 24 Mhrs	Perform maintenance, repair and cleaning to F-10 Tower.	None	N/A
<b>C</b> 2	F-10 Pump Room	“ 4 Mhrs	Replace bag filters and perform MNT on all pumps.	None	RWP 457 & HP
<b>RS</b> 3	F-10 TWR	“ 8 Mhrs	Install MK-UP bypass for TWR.	Plumbers	N/A

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**H-10 House**

<b>C</b> 1	PUMP RM	5/04 to 9/04 2 Mhrs	Change out bag filter.	None	N/A
<b>C</b> 2	“	“ 2 Mhrs	Back flush HTXR.	None	N/A
<b>C</b> 3	“	“ 12 Mhrs	Install PSI regulator on make-up line.	PE plumbers	N/A
<b>C</b> 4	“	“ 6 Mhrs	Install globe valve on TWR side for temp regulation.	PE plumbers	N/A
<b>IP</b> 5	“	“ 16 Mhrs	Possibly install domestic water for HTXR cooling.	PE plumbers	

**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**AGS Recharge Basin Outfall 003 (HO)**

<b>RS</b> 1	Recharge Basin	“5/04 to 9/04 16 Mhrs	Replace two recharge basin valves.	Riggers, P.E. Plumbers	N/A
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**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**AGS Trailer PLC's**

<b>C</b> 1	928 Trailer	12 Mhrs	Complete ether net board on sub PLC unit. AGS MM, RFPA, and FPQ need to be off.	None	N/A
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**\*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.**

**C-A Complex**

<b>C</b> 1	Various Pump Room	16 Mhrs	Check and replace all PLC's PWR supplies. Notice from Bristol certain pwr supplies could develop problems.	None	N/A
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**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
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**Maintenance Period: Summer Shutdown 2004**

<b><u>JOB#</u></b>	<b><u>AREA WHERE WORK IS TO BE DONE</u></b>	<b><u>TIME PERIOD</u></b>	<b><u>JOB DESCRIPTION, RESPONSIBLE PERSON &amp; GROUP DOING THE WORK</u></b>	<b><u>ADD'L. SUPPORT AND COMMENTS</u></b>	<b><u>HP SURVEY AND DETAILS</u></b>
<b>C-A Complex</b>					
<b>C</b>	1 Various	160 Mhrs	Supply man PWR for cable pull.	None	N/A
<b>*POSSIBLE DISRUPTION EXAMPLES: POWER SHUTDOWN, BLOCKING OF AISLES, TURNING OFF OF SMOKE OR FIRE ALARMS, SYSTEM PRESSURIZATION, ETC.</b>					
<b>NSRL Bldg. 957</b>					
<b>C</b>	1 NSRL TWR	6/04 to 9/04 40 Mhrs.	Drain and clean tower, perform maintenance on tower components, fan, pumps CNTRLS, etc.	None.	N/A
<b>C</b>	2 NSRL Cooling Systems	6/04 to 9/04 40 Mhrs	Perform MNT/Repair on the PWR supply and MM cooling systems.	None	N/A

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**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
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**Maintenance Period: Summer Shutdown 2004**

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**RHIC BRAHMS FACILITY Bldg.  
1002**

C	1	RHIC-Brahms Bldg. 1002	May-Sept Shut Down Tower, Drain, Clean basin and strainers. Repair tower as needed (repair TWR doors and PVC leak, Valve). Perform Maintenance on system equipment, Lube all auto manual stations.	None	None
C	2	RHIC-Brahms Bldg. 1002	May-Sept Remove old make-up lines from tower and put in frost free valve	None	None
C	3	RHIC-Brahms Bldg. 1002	May-Sept Clean HTXR and install back flushing valves and piping.	None	None

**RHIC RF FACILITY  
Bldg. 1004**

C	1	RHIC RF Bldg. 1004	May-Sept Shut Down Tower, Drain and clean basin and strainers. Repair tower as needed. Perform Maintenance on system equipment, lube all auto manual stations.	None	None
C	2	RHIC RF Bldg. 1004	May-Sept Service and repair Ozone System	None	None
C	3	RHIC RF Bldg. 1004	May-Sept Service All Bag Filters	None	None
RS	4	RHIC RF Bldg. 1004	May-Sept Possibly clean all filters and strainers in cavities and amps at 4 O'Clock RF area.	RF Personnel	None

**RHIC CRYO COOLING TOWER  
No. 7 Bldg. 1005P**

C	1	RHIC Cryo Tower 7, Bldg. 1005P	May-Sept Shut down tower, drain and clean strainers. Clean pump suction pits, clean main feed strainer in Cyro Bldg. Perform Maintenance on system equipment. Lube all auto manual stations.	Carpenters for minor Tower Repairs	None
RS	2	RHIC Cryo Tower 7, Bldg. 1005P	May-Sept Install new level transmitter and controls	Electrical	None
CAN	3	RHIC Cryo Tower 7, Bldg. 1005P	May-Sept Install New/Modify Valves (5) in suction pits, and concrete work	P.E. Grounds	None
C	4	RHIC Cryo Tower 7, Bldg. 1005P	May-Sept Repair leak in Sump Basin No. 1	None	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

**GROUP: Water Group – Supervisor: J. deBoer, Ext 4668, Pager 4250 – Addtl. Contact: Larry Vogt,**  
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**Maintenance Period: Summer Shutdown 2004**

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**RHIC STAR FACILITY**  
**Bldg. 1006**

<b>C</b>	1	RHIC STAR Bldg. 1006	May-Sept	Shut down cooling tower, drain and clean basin and strainers. Repair tower as needed. Perform maintenance on system equipment. Lube all auto manual stations.	None	None
<b>C</b>	2	RHIC STAR Bldg. 1006	May-Sept	Repair Oxygen System and Test	None	None
<b>C</b>	3	RHIC STAR Bldg. 1006	May-Sept	Clean MCW HTXR and install back flush valves	P.E. Plumbers	None
<b>IP</b>	4	RHIC STAR Bldg. 1006	May-Sept	Complete installation for new chemical system and controls	Drew Chemical	None
<b>RS</b>	5	RHIC STAR Bldg. 1006	May-Sept	Repair PSI control valve, install bypass piping for	P.E. Plumbers	None
<b>C</b>	6	RHIC STAR Bldg. 1006	May-Sept	Chill water lines, change from 2" to 3"	P.E. Plumbers	None
<b>CAN</b>	7	RHIC STAR Bldg. 1006	May-Sept	Possibly modify STAR Power Supply (3) controls and piping.	None	None
<b>C</b>	8	RHIC STAR Bldg. 1006	May-Sept	Remove old make-up line from tower and install frost free valve	P.E. Plumbers	None

**RHIC PHENIX FACILITY Bldg.**  
**1008**

<b>C</b>	1	RHIC Phenix Bldg. 1008	May-Sept	Shut down tower, drain and clean basin and strainers. Repair tower as needed. Perform maintenance on system equipment. Lube all auto manual stations	None	None
<b>C</b>	2	RHIC Phenix Bldg. 1008	May-Sept	Modify tower make-up to tower, install make-up in building. Remove old make up lines and put in frost free valve for tower cleaning.		None
<b>IP</b>	3	RHIC Phenix Bldg. 1008	May-Sept	Complete installation for new chemical system and controls	Drew Chemical	None
<b>C</b>	4	RHIC Phenix Bldg. 1008	May-Sept	Install supply and return on tower for sediment removal unit	P.E. Plumbers	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

(cont.)

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**RHIC PHOBOS FACILITY Bldg.  
1010**

<b>C</b>	1	RHIC Phobos Bldg. 1010	May-Sept Shut down tower, drain and clean basin and strainers. Repair tower as needed. Perform maintenance on system equipment. Lube all auto manual stations.	None	None
<b>C</b>	2	RHIC Phobos Bldg. 1010	May-Sept Remount tower flow transmitter and clean. Add tee for cleaning.	None	None

**RHIC COOLING TOWER No. 6  
Bldg. 1000P**

<b>C</b>	1	RHIC Injection Line Cooling Bldg. 1000P	May-Sept <b>NOTE: Don Bruno wants to run cooling system for power supply testing, duration?</b>  Shut down tower, drain and clean basin and strainers. Repair tower as needed. Perform maintenance on system equipment. Lube all auto manual stations.	None	None
<b>C</b>	2	RHIC Injection Line Cooling Bldg. 1000P	May-Sept Disconnect Tower No. 1 cooling from ATR Injection Magnets and hook up main magnet cooling.	None	None
<b>IP</b>	3	RHIC Injection Line Cooling Bldg. 1000P	May-Sept Repack Temp Control	None	None
<b>C</b>	4	RHIC Injection Line Cooling Bldg. 1000P	May-Sept Clean all bag filters and strainers	None	None